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Trends in Policy Practices in Municipal Health Administration

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Human Encephalitis in Saskatchewan

J. S. FULTON and A. N. BURTON

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Fortieth Annual Meeting
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Trends in Policy Practices in Municipal Health Administration

INTRODUCTION

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TO A GREAT EXTENT, the municipalities, especially the medium-size and large cities, constitute the basic administrative unit in public health. In this panel discussion, municipal health administration will be dealt with in relation to the size and characteristics of cities, the public health problems involved, and the measures to be taken for their solution.

Municipalities are responsible for providing a safe and sanitary water supply, providing sanitary disposal of sewage and proper collection of garbage, creating a local department of health and appointing a local health officer, and adopting municipal by-laws. Governments, Federal and Provincial, have in recent years increased their sphere of action and have absorbed some activities which were previously the responsibility of the municipalities. These include the organization, at the provincial level, of rural and urban health units, the control of tuberculosis and venereal diseases, and the development of programs in industrial hygiene, etc.

Responsibilities of the Local Department of Health

The departments of health of municipalities are given their powers under the Provincial legislation and statutes. The responsibilities of the local health department are:

1. Administration of the Public Health Act and other regulations.
2. Adoption of municipal by-laws.

A panel discussion presented at the thirty-ninth annual meeting of the Canadian Public Health Association, held in Montreal May 28–31, 1951, in conjunction with the annual meeting of La Société d'Hygiène et de Médecine Préventive de la Province de Québec.

3. Control of nuisances and inspection of houses and environment.
4. Control of communicable diseases and of epidemics.
5. Collection and compilation of vital statistics.
6. All other activities required by the Public Health Act, such as health education, maternal hygiene, child hygiene, dental hygiene, mental hygiene, industrial hygiene, etc.
7. Study of all local conditions and problems and the preparation of a health program to solve them.

Local health responsibilities fall into two categories: sanitary and medical. The sanitary responsibilities include:

1. Sanitary housing and sanitation of environment:
   Construction; plumbing system; inspection of dwellings.
   Control of garbage collection and sewage disposal.
   Control of water supply, etc.
   Cleanliness of streets, etc.
2. Inspection and pasteurization of milk.
3. Meat and food inspection.

The medical responsibilities include:

1. Communicable diseases and epidemics: typhoid fever, tuberculosis, venereal diseases; vaccination and immunization.
2. Maternal and infant mortality.
3. Physical and mental development of preschool and school children.
4. Public health education; nutrition, etc.

Organization and Administration

It is to comply with the legal requirements and to meet local health needs that a municipality appoints a medical officer of health and creates a local department of health.

The organization and the personnel vary according to the area covered, the population and its groups, the problems involved, etc.

In a town or small urban municipality, the local medical officer of health, with a limited staff, is responsible for the health of the people and the administration of his department. In a medium-size city the problem is enlarged. More staff are required. The work must be distributed through assistants, and the creation of technical and administrative divisions will be necessary. This is essential in a larger organization—in a city of 500,000 population or over. In such an organization the fundamental divisions of a health department and the responsibilities of the health officer are distributed amongst a number of division or section chiefs who are well prepared for their duties and have had postgraduate training in public health. Established standards will permit the appointment of staff according to the needs.

In relation to the municipal or city health organization, we have to consider the various types of cities—the small one, the medium-size city, the large city, and the metropolitan city area. If we consider the progress accomplished in

public health administration, the extension of the Provincial Departments of Health, the creation of the county or district health unit, and the present trends in the organization of public health in larger urban centres and metropolitan areas, we are impelled to study these new trends in municipal health administration. That is why the Section of Public Health Administration is sponsoring this panel discussion of trends in policy practices in municipal health administration.

THE COUNTY HEALTH UNIT AND THE REGIONAL SMALL TOWN

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ACCORDING to the definition of the World Health Organization, "Health is a state of complete physical, social and mental well-being, and not merely the absence of illness or infirmity." On this basis, the physical health, the social health and the mental health of the individual and of the community have acquired equal importance.

Accepted by our country and by the Provinces, this definition justifies, to some extent, the existence of all public health services. It invites our governments, the medical profession, and public health workers to seek broader horizons, and it should serve as a basis for the elaboration of all programs of public health. The desire to unite all efforts to provide the population with this physical, social and mental well-being is indeed a legitimate ambition; but, in order to attain this objective, organization and collaboration remain indispensable factors, even though the means may differ from one province to another.

The efficiency of the system adopted by the Province of Quebec a few decades ago is being increasingly recognized. Statistics show, at least under the heading of mortality, a decrease which greatly exceeds the most optimistic expectations of our predecessors. The contribution of our health services and that of the health units must be included in the factors which have reduced our mortality and morbidity rates. On the other hand, the results obtained are still far from justifying any slackening in the development of the present organization, because there will always be room for improvement in this field. This system provides the larger cities with an autonomous health service, and the lesser cities, as well as the small towns and rural regions, with a health unit.

Should the small town, even up to about 50,000 population, have its own health service, or can it be served by the county health unit? It must be remembered that the health unit is a local organization under the direction of the Provincial Department of Health. The full-time staff, appointed by the Department, includes a hygienist serving as director, one or more sanitary inspectors, most of them veterinary surgeons, a nurse-educator, visiting nurses, and a

secretary. A tuberculosis clinician is in charge of the detection of this condition and serves a region which may extend over four, five or six counties, according to population. The Division of Sanitary Engineering and the Division of Industrial Hygiene provide each health unit with the services of a graduate engineer whenever required. The unit covers its own county, and occasionally two adjoining ones, and the headquarters are usually located in the most important centre of the region. A Provincial statute, covering health units, provides for the maintenance of these organizations. It establishes the annual contributions of small municipalities at a cent and a half per hundred dollars of taxable municipal valuation, and at two cents in the case of municipalities with a population of 4000 or more (Health Units Act, chapter 184, articles 4 and 5, R.S. Quebec). The Department of Health is required to make up any deficit in the amount necessary for the operation of each health unit.

The Department of Health retains top-level control of the health units, but the directives remain sufficiently flexible to permit action suitable to the requirements of each community and an evolution corresponding to the progress which inevitably follows the application of the general principles of individual hygiene as well as of public hygiene.

Modern methods of detection, of prevention and of treatment of a certain number of ailments, the evolution of society itself, the increase in population, the lengthening duration of life, the development of industry, the better means of communication, the growing interdependence of urban and rural areas—all these are factors giving rise to new problems and requiring on the part of the authorities a constant revision of programs of activities and of methods of organization.

The health services and the health units are responsible for providing the population with the best possible protection and for doing everything possible to attain this goal. No sector or region can be neglected without placing in jeopardy the final success of the work. The problems of health may vary with communities and with social and economic conditions. Even though the problems may not be identical, they are none the less complicated, whether they are found in a large centre, a small town, or a rural region. The essential point is to provide each county, sector, or region with the sort of organization which will be best suited to the needs of the population concerned.

It is agreed that cities of 50,000 population or more can and should have their own health service. Apart from these centres, which are not numerous in any case, it is usually the boundaries of a provincial county which determine the territory of a health unit.

Whatever its limits may be, the county health unit bears the entire responsibility for the application of the Public Health Act and for the execution of the program of activities laid down by the Provincial authorities. The medical officer, fully supported by his staff, works in close collaboration with all the heads of divisions of his Department to secure the best results from the following activities:

1. Communicable disease control.
2. Maternal and infant hygiene.
3. Pre-school hygiene.
4. School hygiene.
5. Dental hygiene.
6. Industrial hygiene.
7. Health education.
8. Sanitation.
9. Vital statistics.

Other activities, such as mental hygiene and the fight against cancer, may in certain cases be added to this list. In the field of social welfare, a number of organizations require active participation from the staff of the Health Unit; among these we find the anti-tuberculosis leagues, home education services, leisure services, health camps, the Red Cross, etc.

The fight against communicable diseases includes detection, declaration and isolation of cases, epidemiological investigation, tracing of contacts and carriers, and also vaccination or immunization against diphtheria, whooping cough, tetanus, tuberculosis, smallpox and typhoid. A weekly or bi-weekly anti-tuberculosis clinic is held at unit headquarters. An examination is made of patients referred by general practitioners, of contacts in tuberculous families, and of all persons for whom pulmonary examination is compulsory, such as teachers and food handlers.

Venereal disease clinics for the diagnosis and treatment of venereal diseases are held regularly at unit headquarters, or, preferably, at the local hospital.

Monthly or bi-monthly clinics for immunization against diphtheria, whooping cough and tetanus are organized in all principal centres. In some parishes, these clinics are suspended during the winter months.

B.C.G. vaccination is performed at home, or in hospital in the case of infants or of contacts in tuberculous families. Children of school age are vaccinated in the schools.

Maternal and infant hygiene is carried on through child welfare clinics, simultaneously with the immunization clinics and the nurse's visit to the home.

School hygiene consists in the medical examination of the pupils, the control of communicable diseases, the checking of certificates of vaccination and health certificates among teachers.

Popular education is one of the principal functions of the health unit. Each member of the staff must be an educator who avails himself of every possible contact to teach the general principles of personal and public hygiene. Lectures, moving pictures and various sorts of demonstrations are the principal means for this purpose.

Sanitation remains an everyday problem. Milk pasteurization plants, water filtration and treatment plants, public markets, grocery stores, bakeries, all establishments handling food products, require constant supervision. Hotels, restaurants, beaches, swimming pools—in a word, all public places—call for periodical inspection. The disposal of sewage and garbage, the elimination of all kinds of nuisances, create problems which must be solved. Hygienic housing belongs in this section.

The collection of vital statistics and their compilation are also of first importance. They enable us to recognize the principal problems of hygiene and to direct our efforts accordingly.

In order to carry out such a program in a rational, practical and economical manner, it is important that the headquarters of the health unit be located at a strategic point in the territory. In a rural county, the small town of 10,000, 20,000 or 30,000 population is the ideal location. The regional hospital is situated there, as well as the majority of physicians, educational institutions, colleges, convents, commercial and technical schools, etc., industry, commerce, markets, local newspapers, the radio station. The urban and the rural groups of population have continual contact. From the standpoint of health, these two groups can only be divided theoretically; actually they complement each other as regards most of their needs.

In the small towns in which the health unit carries on its activities, it reaches the institutions of higher education, industry and commerce, all sorts of associations and clubs, the hospital and the medical profession. Its influence is necessarily felt among the neighbouring populations. The control of communicable diseases is more quickly attained if the majority of the sources of infection are within the limits of the territory. The same applies to food supervision, particularly the water supply and milk, meats and other foods.

Another advantage in grouping urban and rural populations in the same unit is uniformity in methods of work, especially in the field of education and the application of the Public Health Act.

The realization of the program of activities of the health unit demands the collaboration of civil, religious and educational authorities, and that of leaders of industry and associations, but the collaboration of the medical profession is essential. There exists no barrier between preventive and curative medicine. The hygienist must be in constant touch with the physicians in his territory. On the other hand, it is important to provide these same physicians with easy access to the services of the health unit.

Thus the locating of the headquarters of the health unit in the hospital of the region would be ideal. The contact between the staff of these two services would be closer and the centralization would be to the advantage of the population.

There is no doubt that the small town should be connected with the county health unit. What is important is that the unit should have a population sufficient to justify a complete organization and the employment of a permanent staff, interested, competent, and capable of adequately meeting the requirements of the community. As the greater part of the cost of operation is met by the Department of Health, if a county lacks sufficient population to support this organization, it would be advantageous to unite, in one and the same unit, two counties or parts of counties situated in the vicinity of a small town or of a hospital. The practical and economic advantages would amply compensate for whatever inconvenience might result from the fusion.

As the rural regions are considered to be the source from which the large

cities draw their supply of personnel and food, it is in the general interest that this section of the population should enjoy the benefit of well-organized health services.

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HEALTH ADMINISTRATION OF A MEDIUM-SIZED CITY

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HAMILTON has a population of about 200,000 people. It has increased in the last nine years by about 50,000. During that period the city has annexed a considerable area of land and is about to annex more. Our population comprises people from most of the countries of the world. Our chief industries are steel and textiles. We have all kinds of politics and just about all kinds of religions.

This brief outline of the City of Hamilton will give you an immediate idea of the nature and extent of our problems.

Since administration of a health department requires the assistance and co-operation of many voluntary and official agencies, I should tell you that we are well supplied with the usual organisations, such as men's and women's service clubs, Victorian Order of Nurses, St. Elizabeth Nurses, professional groups, Home and School Clubs, Council of Social Agencies, and many more, as well as the usual civic departments. A good deal of our own success is linked up with the success of these various bodies. We, therefore, go as far as we can in assisting with their projects relating to health.

The press and the radio help considerably. The press reporter makes an almost daily visit or telephone call and we try always to give him something to print. We also prepare little special articles from time to time and occasionally manage to get an editorial. The radio stations want brief news items. These too we make an effort to provide. We try to avoid being sensational and I believe we have them educated to present simple facts without flourish.

All of this may sound a long way from administration. We must keep in mind, however, that we are at a disadvantage. We have nothing tangible to sell our taxpayers, like parks or schools. These are in themselves a return for the tax dollar. We have only services to offer. As a result, we must make a continuous effort to remind people of our purposes as a tax-supported organisation and keep them reminded that we are on the job and trying to do a good job. I consider, therefore, that constant but quiet publicity is part of administration.

We have to have money to operate. We have to get it through the Board of Control and City Council. Unfortunately for us, local legislators generally have

no real understanding of our work. They can see fire trucks and sidewalks, but they cannot visualize bacteria and infant death rates. They deplore welfare costs, but do not fully appreciate the relationship between low welfare costs and good public health service. In asking for money I therefore seldom make much reference to the humanitarian aspect of the use to which the money will be put. I always try to show how the expenditure will save at least an equivalent sum. That is easy to understand.

Our budget is made up under separate headings and we must estimate our needs for the year under each heading. We may not exceed expenditures under any one heading without asking for an overdraft and may not transfer money from one section to another. Of course, there are a few things that come under the head of general administration and general supplies that are not too carefully allocated, but these do not amount to much in the sum total of about $340,000.00.

It is evident that while our expenditures are carefully segregated, our services cannot avoid overlapping, and that in practice we cannot tell how much any particular part of the program costs. We are this year trying to rearrange our budget figures so that they will more exactly indicate our costs for different divisions. In our work, however, where it is so difficult to say where one activity ends and another begins, I do not believe it would be worth the outlay in time and money to try to arrive at exact costs for every service. A nurse cannot be making a home visit if she is busy in an office figuring out how she has spent her time.

We have a generalized service except for bedside nursing, which is done by the Victorian Order of Nurses and St. Elizabeth Nurses. We budget for a staff of 40 nurses, 3 supervisors, and 1 director. Of these, one nurse with psychiatric training is attached to our mental health clinic, and one each to our venereal disease and tuberculosis clinics. The rest of the nursing staff is assigned to districts, with one or more schools in each district, depending on the size of the schools. The district nurses take turns helping in the tuberculosis clinic. Each nurse is responsible for all public health nursing activities in her district and is assisted in her clinics by volunteers and nurses from other areas. Special visiting may be done by the venereal disease and mental health nurses. We feel that our nurses can do a better job by dealing with the family as a unit and not as a miscellaneous collection of problems.

We follow the same plan with our inspectors, except for housing problems. These are nearly all handled by one man because they take up a lot of time making records and in court work. The inspectoral districts correspond roughly to three nurses' districts. Each man follows up complaints, inspections, placarding and miscellaneous work in his district. Because the districts are not equal in work involved, the men are moved at intervals, or border areas may be added to even up the work as seems necessary or desirable.

The Director of our Division of Food and Sanitation is a veterinarian who has had postgraduate training in public health. He assumes some of the food inspection work, particularly meat and meat products. He has on his staff a

veterinarian with a Diploma in Veterinary Public Health who does the dairy farm and local abattoir inspections.

Each week we operate nineteen well-baby clinics staffed by our district nurses, volunteers, and a practising physician who is paid for his time. Three pre-natal clinics are operated in the same way.

We are responsible for all school medical services. The director, who is a full-time member of our staff, is assisted by eight part-time physicians. We have pre-school clinics and immunization clinics in the schools. All secondary school pupils and all teachers are tuberculin-tested annually and the positive reactors of the current and previous years are X-rayed. About 95% of our school population is immunized against diphtheria and vaccinated against smallpox, and a final booster dose of diphtheria toxoid is given in the last year of secondary school. We are trying to get industry to carry on from there. The school authorities co-operate with us in every way.

A well-qualified psychiatrist is in charge of our mental health clinic. He is assisted by a psychologist, a psychometrist, a nurse with psychiatric training, and a secretary. You will know that this is inadequate. We, therefore, try to limit our activities and do a few things well. Assistance is given in our tuberculosis clinics by the staff of the Mountain Sanatorium. Our Division of Tuberculosis Control is in charge of a tuberculosis specialist who has a Diploma in Public Health. She has one nurse on her staff (who is assisted by other nurses, as I mentioned before), three stenographers, and an X-ray technician. Last year our mortality rate from tuberculosis was 6.1 per 100,000.

Dental hygiene as we are doing it satisfies us even less than some of our other activities. We have a staff of eight half-time dentists and a part-time director and five dental assistants. These operate three permanent clinics. In addition, we have portable equipment that is set up in schools throughout the city and operated until the work is finished and then moved on. An annual survey is done during the fall. The findings of the survey set the pattern fairly well for the balance of the year's work. Some educational work by movies, lectures and posters is carried on, but not enough. We need a full-time director with a Diploma in Dental Public Health to reorganise our dental program.

Our administrative staff handles the compilation of statistics, recording, distribution of biological products, most of the purchasing, filing, etc. They are conscientious and most of them have been with the department for some years and are thoroughly familiar with the work.

We make free and frequent use of the City Solicitor's Department. Many of our court cases we prosecute ourselves. The rest are handled by the City Solicitor's Department. We are careful to gather adequate evidence before going to court. We would generally rather let something slide than lose a case. We do occasionally take a case to court that we know we are going to lose, just to prove that we are not omnipotent.

This bare outline of our department activities hardly even hints at some of our problems. I hope, however, that it will give some idea of the operation of our department.

NEW TRENDS IN POLICY PRACTICES IN A LARGE CITY HEALTH DEPARTMENT

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PUBLIC HEALTH ACTIVITIES in most of the large city health departments on this continent originated in the early days of this century.

In the last thirty-five years or so, the first basic or fundamental divisions were those of demography; sanitation; communicable disease, including tuberculosis and venereal disease control; child hygiene, with its program of maternal and child health; school medical inspection; mental and dental hygiene, nursing, health education, food inspection, laboratory services, and nutrition.

Gradually new services have been added to the various divisions. Without listing them all, one may mention those which occurred in the divisions of communicable disease control, child hygiene, and food and sanitation, with the inauguration of vaccination and immunization, mass X-raying or surveys of selected groups, improved methods of safeguarding milk, better control of milk- and food-borne infections, extension of public health nursing services, etc.

Nowadays large city health departments are organizing services for premature babies, programs in adult hygiene, cardiac and eye clinics, cancer and diabetes clinics, medical-care programs, and are establishing social areas. As a result of the present war situation, emergency planning services are also being organized.

Because of the complexity of health administration in cities of 500,000 population or more, the new trend in policy practices is, in many cities, to decentralize some of the activities by creating smaller administrative divisions known as health districts. Among the cities which have adopted such a program are Boston, New York, Baltimore, Montreal, and Cleveland.

Boston organized its first health district in 1924 and now operates seven districts.

In New York the American Red Cross Society, on its return from field activities overseas in World War I, organized in 1921 the East Harlem Health Centre, which did much to pioneer in district health development. The Bellevue-Yorkville Health Demonstration, sponsored in 1926 by the Milbank Memorial Fund and the New York Department of Health, made an important contribution to the program of decentralization. New York's first municipal health centre, serving Central Harlem, has been in operation since 1930. The city's plan of thirty districts, with fourteen health centres or buildings, was adopted in 1934.

Baltimore organized its first health district in 1932 and now has seven districts.

Health districts were organized in the City of Montreal in 1940, the first being that serving the Maisonneuve district, with a population at that time of 101,200. The original plan was for eight districts, but the project for the future will be ten districts.

In 1945 Cleveland proposed that three health centres be erected in the following year. Chicago is planning the organization of health districts, in keeping with a recommendation made in a survey by the United States Public Health Service in 1949.

Other cities, like Vancouver and Los Angeles, have organized what are called metropolitan health districts or local health units.

Before such a subdivision of health administration is made, statistical data must be obtained about the total population of the city, to determine the number of districts to be organized. When this is known, a study is made, for each district, of the ethnical groups and the economic status of the population in the area. Other statistical data needed are birth rates, infant, maternal and general mortality rates, and mortality rates from certain causes.

The plan of decentralization of the health department's services may be largely the same in most cities, but may vary in its application according to the territory to be served.

The first objective in the program of decentralization is to assign some of the central administrative responsibilities to district health officers. This decentralization makes it possible for certain activities to be developed or modified according to the peculiar needs of the district, as revealed by surveys or special studies of the public health problems which may arise in the area.

The health districts offer many advantages. The program of health activities can be arranged to meet local needs. A generalized service can be given by the public health nurses. Training centres are available for new employees and practical experience can be arranged for students of local universities. Campaigns of health education can be undertaken. Coordination of the health department's activities with the work of practising physicians and voluntary health and social agencies can be promoted. Supplies of vaccines, sera, etc., can conveniently be made available to practising physicians and voluntary agencies, free of charge.

The problems may vary from one district to another. Whatever they may be—maternal and infant mortality rates, a high incidence of diphtheria, whooping cough, tuberculosis, venereal disease, typhoid fever, or any other communicable disease—immediate special measures can be applied, with better results.

Facilities can be added or improved, particularly pre-natal and well-baby clinics, vaccination and immunization bureaux. The tuberculosis problem can be dealt with by educational campaigns, tuberculin testing, or vaccination of special groups among the children in elementary or high schools, X-raying and diagnostic clinics.

In the case of an epidemic, all efforts on the part of the personnel in the district can be devoted to checking the spread of the disease.

District Health Administration

The pattern of district health administration is quite similar in the various cities in which this plan has been adopted. It may be a division or bureau which is part of the general administration or the director's or commissioner's office, and is under the direction of an assistant director or deputy commissioner, or

special officer who is chief of the health districts. His responsibilities and duties are as follows:

1. General supervision over:

(a) general policies, programs and administrative activities of health districts and district health officers, including consultation in the field.

(b) relationships between district and division or bureau activities.

(c) relationships with universities in the teaching centres.

(d) transfer of district health officers, on approval of director or commissioner.

2. Planning, in collaboration with division superintendents or directors, locations and types of buildings and layouts for new buildings in the districts, health centres, and various clinics.

3. Receiving weekly reports and an annual report from district health officers.

4. Reviewing any disagreement on transfer of personnel within district and from district to district, and referring to director or commissioner for final decision.

5. Approving vacation schedules of personnel.

6. Giving routine approval for personnel of leaves of absence within the Regulations.

7. Within the regulations of the city, attending to necessary details relating to sick employees, following an accident while on duty.

District Health Officers

The administration of each district is entrusted to a full-time physician with a degree or diploma in public health. He is known as District Health Officer. His duties and responsibilities are as follows:

1. To administer district activities and direct district personnel in accordance with established departmental policies, objectives and technical procedures, being responsible for making efficient and fullest use of the facilities available and for bringing to the attention of the central office any needed changes in policies or procedures.

2. To participate in transfer of personnel, professional and clerical, within a district or from district to district; to recommend to the district chief for approval; in case of disagreement, refer to director or commissioner.

3. To recommend to the health district chief the adding, dropping or transferring of services and sessions within the district.

4. To request new personnel, equipment and new location.

5. To refer disciplinary cases to the health district chief.

6. To submit weekly reports and an annual report to the health district chief.

7. To recommend to the health district chief leaves of absence of professional and clerical personnel, including leaves with pay beyond Regulations and leaves without pay; also to approve leaves of absence of professional and clerical personnel within Regulations.

8. To take responsibility for seeing that the rating of district employees is carried out in a thoughtful and fair manner.

9. To plan a vacation schedule for professional and clerical staff.

Health Centres

In the development of health centres, the effort is made to bring field activities as close to the homes as possible. The centre should be strategically located, as police and fire stations are, and should serve the health needs of approximately one to two thousand people. An exception to this general statement is the highly congested area of low economic status.

The health centre should provide adequate office space for the district health officer, the district nursing supervisor, and the clerical employees. There should be a good-size meeting room for the public health nurses of the district.

Each health centre should provide complete clinic health services in prenatal, infant and pre-school hygiene, dental hygiene, and nutrition.

Sufficient space should be set aside for housing neighbourhood services of health agencies.

Diagnostic facilities should be provided for tuberculosis and venereal disease. Each centre should have complete x-ray facilities, including equipment of the miniature type and mobile dental apparatus.

Selected centres should provide services for cancer, cardiac, eye, diabetes and mental hygiene clinics, when the need for them has been established and when such services are not available in the area.

Each health centre should have a small auditorium equipped with movie projectors, for meetings and educational exhibits.

One centre should serve as a training centre for new employees in their probation period. This presupposes additional and well-prepared personnel.

Centres which have in their area a medical school should provide sufficient space for housing university members for health-teaching purposes and the theoretical and practical training of students.

In Montreal the health centres are located in remodelled municipal buildings or rented houses. In a month or so a new building which has been built as a health centre will be ready for occupation. This building, which is a community centre, covers a city block and includes, in addition to the health centre, a branch of the municipal library and a public bath, each having a separate entrance.

Our experience in Montreal has been that the decentralization of health services has made it possible to bring field activities closer to the people. It has been possible to visualize the existing problems more clearly and to apply special measures. Communicable diseases and epidemics have been controlled more efficiently. Better coordination of work with practising physicians and voluntary health and social agencies has been achieved. More and more, the people are using the facilities of the health centre in their district.

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ADMINISTRATION OF THE GREATER VANCOUVER METROPOLITAN HEALTH SERVICES

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BY agreement a number of municipalities in the lower mainland of British Columbia have combined to form a committee for the administration and supervision of the public health services. The following paragraphs are taken from the agreement.

The signatories hereto agree that the Senior Medical Health Officer, under the direction of the Metropolitan Health Committee, shall have complete control and supervision of all health officials now or hereafter employed in any part of the whole area by any of the signatories hereto during the life of this Agreement, and shall use them as he may deem necessary in any part of the area and shall assign to such officials such duties and functions as shall be deemed necessary and requisite.

It is agreed that the Health By-laws of the municipalities and the regulations of the Provincial Health Act as to any particular municipality or district, and the Public Schools Act insofar as it affects school health services, shall continue to be enforced as heretofore, but under the general direction of the Senior Medical Health Officer.

The objectives are those of other health departments, namely, the effective operation of services in such manner as to prevent disease, promote health and prolong effective living.

History

Prior to November 1, 1936, when the Metropolitan Health Committee was organized, each municipality in the Greater Vancouver area and the school board within each municipality functioned as complete and independent public health administrative entities. This situation resulted in over-lapping, duplication, imbalance and much waste effort without achieving results commensurate with the expenditures. Problems in public health were difficult to solve. Dr. G. F. Amyot, in the "Report of the Proposed Metropolitan Health Department for the Greater Vancouver Area," outlines the history as follows:

The proposal for a Metropolitan Health Board and Health Department originated during 1925 following an epidemic of mild smallpox that occurred in the Lower Mainland. At this time there was a ban passed on British Columbia by the United States Public Health Service, causing a considerable financial loss to the residents of British Columbia and particularly to the Lower Mainland.

As it was impossible to get coordinated action from the many different bodies responsible for Public Health supervision in the Greater Vancouver Area, Dr. H. E. Young, the Provincial Health Officer, prepared and presented a plan for a Metropolitan Health Board. This plan was whole-heartedly supported by Dr. J. W. MacIntosh, then Health Officer of Burnaby. The plan was dropped finally due to the difficulties attendant upon the amalgamation of South Vancouver with the City of Vancouver.

The Metropolitan Health Department plan was revised in 1931 by Dr. J. W. MacIntosh, the newly appointed Health Officer of the City of Vancouver. Many committees, both lay and technical, were formed and an extensive report was prepared laying the groundwork

for a practical plan applicable to the conditions at that particular time. This work was continued for some years but unfortunately the operation of the plan was delayed by several obstacles.

These reasons plus the following facts made the organization of a Metropolitan Department logical.

(a) Acute communicable disease is not limited by municipal boundaries which were set for political purposes based on the needs of the time.

(b) The municipalities within this area have

1. A common water supply—Greater Vancouver Water District.
2. A common milk shed.
3. Common food sources.
4. A common sewage disposal problem—Greater Vancouver Sewerage and Drainage District.
5. Similar population composition and a free intermingling of the people.
6. Similar ideals and ideas about public health practices.
7. Marked concentration of the hospital and medical facilities in Vancouver.
8. Many services desirable for all but available only within the city are not economically feasible for small individual municipalities outside the city, but are possible on a metropolitan basis.
9. Many problems of a similar nature varying only in degree because of population density.
10. Many needs and adjustments in the varying programs to bring about a coordinated cooperative drive and improvement of services to standards applicable over the whole area.

Authority

The formation of such a committee or a board is made possible under the Provincial Health Act.

Subject to the approval of the Lieutenant-Governor in Council, the Council of any one or more of the Corporations of the City of North Vancouver, the District of North Vancouver, the District of West Vancouver, the District of Burnaby, the Township of Richmond, the City of New Westminster, the District of Coquitlam, the City of Port Coquitlam, the District of Fraser Mills, the City of Port Moody, jointly with one or more Boards of School Trustees of these municipalities, instead of forming a union pursuant to section 47 of the Public Health Act may, by agreement with the Council and Board of School Trustees of the City of Vancouver, formulate and carry out a plan for the unified direction and control of all or any of their health officials, staffs, and property (real and personal) for service or use anywhere in such municipalities (including the City of Vancouver) and in the school districts regarded as a whole, and for their general benefit in such manner, by such means, and under such terms and conditions (including the sharing of expense, and the constituting and empowering of a committee of management) as may be provided by the said agreement.

If the Board of Governors of the University of British Columbia joins in the agreement the plan may be extended to the University and its endowment lands. If the Lieutenant-Governor in Council joins in the agreement the plan may be extended to District Lot 172.

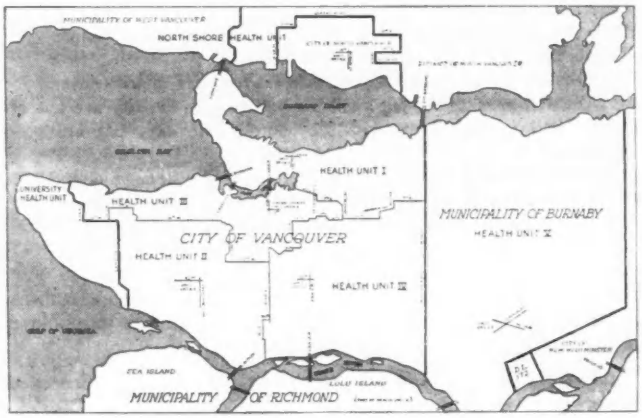
Development

In February 1936, Dr. G. F. Amyot was given the task of developing a plan of organization. At that time he envisaged a Board combining the public health services of some 14 different municipalities and government districts with their respective school boards where they existed. This would have given a natural geographical area bounded on the north by the mountains, the east by sparsely

settled country, the south by the Fraser River, and the west by the Gulf of Georgia. For various reasons such a complete set-up was not possible, but with the aid of Provincial funds and grants from the International Health Division of the Rockefeller Foundation a committee was formed and became active on November 1, 1936.

Present Area

The Greater Vancouver Metropolitan Health area covers 248.47 square miles and has a population of 525,060, plus 6,500 University students. It includes the following:



GREATER VANCOUVER METROPOLITAN HEALTH AREA
Showing Divisions into Health Units

Committee

The Metropolitan Health Committee is composed of representatives from the councils and school boards in the area. The number and source of the representation are as follows:

METROPOLITAN HEALTH COMMITTEE
Comprising the Health Services of Councils and School Boards of:

	Estimated Population	*School Enrolment*	*Area Sq. Miles*	*Committee Representation*
City of Vancouver	397,140	40,669	44.53	8
City of North Vancouver	14,000	4,710	79.89	4
Municipality of North Vancouver	16,000			
Municipality of Burnaby	55,000	8,593	33.59	2
Municipality of Richmond	24,500	3,342	47.00	2
Municipality of West Vancouver	13,000	1,959	38.00	2
University Area	3,420	260	5.16	1
District Lot No. 172	2,000		.30	1

Section 6 of the agreement reads:

Each of the signatories hereto agree to appoint a representative or representatives annually to a Committee of Supervision to be known as the Metropolitan Health Committee and their voting powers shall be as follows:

City of Vancouver	4	votes
The Board of School Trustees of Vancouver	4	"
Corporation of the District of Burnaby	1	"
The Board of School Trustees of Burnaby	1	"
The Corporation of the City of North Vancouver	1	"
The Board of School Trustees of the City of North Vancouver	1	"
The Corporation of the District of North Vancouver	1	"
The Board of School Trustees of the District of North Vancouver	1	"
The Corporation of the Township of Richmond	1	"
The Board of School Trustees of the Township of Richmond	1	"
The Corporation of the District of West Vancouver	1	"
The Board of School Trustees of the District of West Vancouver	1	"
Provincial Board of Health as representing University Area and University of British Columbia	1	"
Provincial Board of Health as representing D.L.172	1	"

The representatives so appointed shall hold office for the calendar year in which they shall have been appointed and until their successors shall have been appointed.

It is interesting to note that in the composition of the committee the surrounding municipalities and boards outnumber the representatives from the city. However, at no time has there been a situation where special voting was demanded because of differences in operation of services.

The function of the committee is to supervise the operation of the services; recommend personnel for employment by the participating groups and carry on reviews of activities. All employees must have qualifications as outlined in the agreement, e.g. nurses—Public Health Nursing Certificate, Sanitarians—Certificate in Sanitary Inspection (Canada) or better.

The Committee meets on the third Wednesday of each month at 10 a.m. in the City Hall, Vancouver. The meetings are open to the public, and representatives of the Press attend.

Financing

Financing of the program for the most part is on a municipal basis, with grants in aid being provided by the Provincial government. A budget for each area is drawn up and reviewed by the Senior Medical Health Officer for the agency concerned and the responsible unit directors for those units outside the city. Within the city, the budget needs are determined and discussed with senior staff members.

In the case of Federal Health Grants where the grants are made specifically for some project concerning only the municipality involved, the item or items are included in the local budget. In cases where the project applies to the whole area, the items are included in the City of Vancouver budget. These latter include mental hygiene, nutrition, audiometric testing, visiting occupational therapy, visiting homemaker service, mobile X-ray surveys, home care (streptomycin administration), and vital statistics. The former items include public health nursing, sanitary inspection, and dental grants where applicable.

The per capita expenditure varies because the needs vary. If all municipalities were charged on a generalized per capita basis, the cost to the smaller govern-

ments would be greater. One might say that the cost is based on need and ability to pay, but over the years there has been a closer approach to a similar per capita basis in all parts of the area.

Once the finances have been determined, the operation of the services becomes wholly the responsibility of the professional personnel.

The Public Health Services

The activities of the Committee are for the most part similar to those carried on in most modern and well-organized departments but are modified to meet, coordinate and cooperate with, and to supplement where indicated, those services under Provincial direction.

In British Columbia, diagnostic and treatment services in tuberculosis and the venereal diseases are operated on a Provincial basis. Therefore, our services must be organized in case finding, case follow-up, contact examination, etc. The relationship between Provincial services and the Committee services is so well integrated that one does not think of differences in government, but only of the work to be done.

Similar patterns of service are worked out in all the fields where the Provincial and municipal governments have a common ground.

In order to achieve a uniformity of service, the programs are periodically reviewed in conference with various staff groups concerned. Once a program has been developed by the staff, the Senior Medical Health Officer makes it the policy for operation. This method ensures a democratic way of approach and even the newest appointee may make his contribution.

Coordination of services over the area is achieved by the draughting of schedules, based on the formulated program mentioned above, in the central offices. While this may detract to a degree from the administrative control of the local unit, it permits movement of personnel, provided in the agreement, and a level of service of a higher standard over the whole than would be possible or indeed probable, in an individual unit basis. School timetables for the health services, child health conferences, immunization programs, etc., are all subject to this arrangement.

Another method used to achieve uniformity and elevation of standards is the use of policy manuals with references to many phases of the work, and more are to be developed. In the child health conferences, operated on an appointment basis, a conference guide for nurse-parent interview is used for both infant and preschool ages. In the mental health program, which is basically one of education and teaching by case-study methods, the attempt has been made to have the staff fully informed on techniques of history-taking, spotting emotional disturbances and problems in childhood. In this field of endeavour the objective is to have full recognition and therefore proportionate applications of health teaching time similar to that carried on in the field, say, of communicable disease control or nutrition.

In the field of nutrition the program in the area is carried out with the objective of eating for health. In this regard the nutritionists consult, not only with the

committee staff—medical and nursing, but with many of the social agencies and groups which can further nutrition knowledge.

Some unusual but very necessary services have been made possible by the Federal Health Grants. Visiting occupational therapy for tuberculosis patients living at home is the first step in post-hospital discharge rehabilitation. Visiting homemaker service has made possible the retention of the integrated family unit and the hastening of recovery in selected cases. The home-care program with the administration of streptomycin has made possible the more effective battle in this still challenging public health problem. These programs were developed in consultation with the committee staff and the provincial personnel concerned.*

Organization of Personnel

The organization of personnel is considered in the Greater Vancouver area as most suited to meet the needs in keeping with finances available. The personnel make-up of the different units varies, but this is explainable by a knowledge of local conditions.

A health unit includes a medical director, a supervisor, an assistant supervisor and staff of nurses, sanitary inspectors and clerical assistants. However, additions have been made; for example, Units 1 and 4 (Vancouver) have chest x-ray equipment.

Personnel Practices

In the City of Vancouver a well-developed personnel program has been adopted and, generally speaking, the machinery and advice available here is applied to all parts of the area.

Training and Educational Experience

While regular meetings, both administrative and educational, are held at regular times for the staff, the Metropolitan Health Services, in addition, offer supervised educational experience to students or trainees in other fields on an observational or field practice basis. Among the groups are public health nursing students, undergraduate nurses, home economics students, dietetic internes, sanitary inspectors, social workers and various other persons. While this is time-consuming, it is thought by the senior staff members that it is in part, at least, compensated for by having more trained citizens with an awareness of public health and public health practices. With the opening of the Medical Faculty in the University of British Columbia, an orientation lecture and field trips have been provided for the undergraduates.

Health Education

While there is no formal division of public health education, all services have as their basis an educational approach. The motto in this case is "an informed public can, within certain limitations, determine its own morbidity and mortality rates."

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*The programs terminated March 1952 with the opening of a new sanatorium.

Full use is made of health literature provided through the Federal and Provincial Health Branches and other sources such as the Canadian Tuberculosis Association.

Some literature has been developed with the services and recently the first issue of a bulletin was released.

Special lectures are given to different student groups at both the Normal School and the University.

Relationships with Other Agencies

Relations with other health and welfare organizations, both official and non-official, in the area, have been developed to a high degree. The policy in this regard is "to build bridges in place of walls." The result of this is—membership in the management or other appropriate committee of management.

The Greater Vancouver Health League coordinates its work with the services of the Metropolitan Health Committee and assists materially in public education.

Conclusion

The demands in order to meet the highest ideals in public health practice are many, the standards outlined by Dr. Amyot in his special report are great, but some measure of success has been experienced in attaining them. The program has been expanded and developed. Some of the services are considered to be outstanding. Statistical indices reflect an improvement in the well-being of the population served. The public and the press support the committee, and the staff are convinced of the value of their work.

In brief, the Metropolitan Health Committee, in spite of many administrative difficulties, manages, regulates, or has charge of the health services for the promotion and maintenance of the public health in the Greater Vancouver area.

The program provides coordinated, supervised services, yet permits the retention of municipal freedom, control, service and integration so important in our democratic way of life.

A GENERALIZED NURSING SERVICE

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TO some people, the title of this paper may appear to be quite antiquated and not at all in line with "new trends." I will agree with you that all of us are far beyond the primer stage with respect to this subject. A great deal has been written about it, read about it, talked about it. As an administrator to another administrator, I would like to ask: "So far, what have we done about it here in Canada?" During last year, a great number of letters and questionnaires were received from Canadian students attending Canadian or American universities, seeking information pertaining to various nursing activities. Mostly they dealt with aspects of generalized nursing service, merging or combining of services.

Answering the best we could, the questions could be summarized as to the "why", "how" and "when" of a generalized nursing service. The "why" was easy to answer. As to the "how," a wealth of literature is available on the subject, which I have no desire to go over with you to-day. I grant you that the Berkeley, California, demonstration set-up established in 1923, the Seattle Merger, the Redhook County, the Nassau County experiments and successes might not be so easily accomplished here in this country where we have this duality of languages and overlapping of agencies.

The "when" troubled us considerably. At the time I was asked to prepare a paper for this session, another student's letter arrived, stating that she had written to the Executive Secretary of the Canadian Nurses' Association, who had referred her to us. One of her questions was: "How did we go about solving our problems?" That was the last straw! At first, we thought surely it must be some kind of joke. I kept thinking of Miss Alma C. Haupt's splendid paper, "Future Goals in Public Health Nursing," presented at the thirty-fourth annual meeting of the Canadian Public Health Association, held in Toronto in 1946.

Another forceful article kept leaping out to my mind, the one written by Miss Charlotte Whitton on "The Nursing Profession and the Evolution of Public Social Services," published in The Canadian Nurse in October 1946. Surely since 1946 something must have been done somewhere in Canada. Re-studying carefully all the comments and recommendations of the Baillie-Creelman report, I was startled by this comment found on page 44:

"Public health is faced with two alternatives, either to develop a specialist for every aspect of public health and send a number of different workers to the home, or develop a generalized program all in the name of public health, with as little specialization as possible in so far as contact with the family is concerned, and have consultant specialists available for staff training and consultation." One recommendation that held my attention was the following: "One or more demonstration areas should be selected for research in the provision of a completely generalized public health nursing program (including bedside care)."

These comments and recommendations are presenting a challenge far-reaching and fundamental. They extend over the whole gamut of nursing from probable drastic recasting of training to new community approaches in this concept of nursing service itself. In these times, we should think soberly and seriously about what we are to do. As administrators, it is our task to try to think clearly about the obligations we have to those who make up the working forces of our agencies.

But before any attempts are made to give bedside nursing care, even as an experiment, a modification of program is first indicated. One of our tests, therefore, is our willingness to give a good work-out within the official agencies themselves. No one assumes that the task of creating efficient, differentiated but integrated nursing services, based upon functional requisites, is easy or can be readily accomplished, nor that progress will everywhere be uniform. No one who knows the diversity of conditions from agency to agency would advocate a single pattern or even several patterns to be slavishly copied, regardless of suitability.

Many forces, large and small, are at work that may have profound implications for the future. There is abroad a general awareness of human needs which is leading to a rapid development and evolution of a machinery to meet those needs. The pressure of events may force us to go ahead long before we have had a chance to experiment.

With Federal grants and its many provisions we may have the opportunity to build the best public health program. In that development, public health nursing will be expected to play its full role.

Does it sound unbusinesslike to say that public health administrators have a responsibility to understand that almost every human being who is in a health service, irrespective of his particular responsibilities, wants and needs to have his place in the picture respected? The rank and file, so-called, will find respect just as important a motivation for the way they apply their hands and minds and hearts to their work as will top executives.

Is it too much to ask that the horizons of nursing be expanded in official agencies and that caucus doors be opened to nursing administrators so they can share in the planning and distribution of nursing personnel?

Is it unrealistic to suggest that we must be concerned with the strictest economy of nursing time and economy of emotions of all concerned? Unquestionably we can use many more public health nurses, but are we making good use of the public health nurses we have now?

Today nursing agencies, both official and non-official, are experiencing difficulty in maintaining full staffs of nurses. At the same time, health departments are faced with responsibilities heavier than they have ever known before, for the protection of the health and morale of the population and for the preparation to give emergency service in the event of enemy action on our soil.

With the turnover of nursing staffs, many a public health nurse feels exasperated and frustrated. Increasingly, schools of nursing are seeking affiliation with public health nursing agencies as a part of the student's basic nursing education. Increasingly, public health nursing is being pressed with demands for providing experience, demands often beyond their ability to meet. Analysis of public health nursing activities shows that the nurse is specially subject to fatigue because the job makes great physical and emotional demands and may cause great physical and emotional strain—factors that many administrators tend to disregard. The contribution of each and every public health nurse counts, and she must be used where she will be most effective. Time, effort and emotions can be saved through simplification of recording and reporting, elimination of non-essential items, avoidance of duplication of information, and streamlining of report and record systems. Many activities connected with the keeping and filing of records and reports can be delegated to clerical and auxiliary personnel.

Is it Utopian to hope that the recommendations for such experimentation will go beyond lip-service alone?

One could say a great deal more on the general subject, and I realize that it smacks very much of sermonizing. I deny the intent to sermonize and know that all of you are far too resistant to be affected by it unless it makes sense to you.

I am listing my suggestions in one—two—three order. They are sitting ducks for you to shoot at:

1. Let's not wait until we are pressed by needs to operate changes in our structure and programs.

2. Let's give to the individual we believe capable of getting the job done, the authority to match his responsibility.

3. Let's not cultivate any further this curious illusion that the time is never ripe to begin!

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COXSACKIE INFECTIONS IN ONTARIO

DR. A. J. RHODES, in the Connaught Medical Research Laboratories, University of Toronto, is conducting a study of Coxsackie infections in Ontario. Much interest is attaching to the types of infection in which Coxsackie virus has been isolated. It is now known that there are at least three major groups. The virus has been isolated from patients presenting symptoms of poliomyelitis, but without residual paralysis. In the study it is desired to learn of cases or outbreaks of epidemic pleurodynia (summer grippe); of herpangina (a condition in children in which vesicles are present on the pharyngeal surfaces and which is characterized by acute sore throat), aseptic meningitis, and any illness suggestive of infection with Coxsackie virus.

Arrangements for clinical study will be made by Dr. Rhodes. Containers for the forwarding of specimens will be provided. Dr. Rhodes' address is: Connaught Medical Research Laboratories, University of Toronto, Toronto 5, Ontario.

Human Encephalitis in Saskatchewan Caused by the Virus of Western Equine Encephalomyelitis

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WESTERN equine encephalomyelitis (W.E.E.) was first recognized in Saskatchewan during the summer of 1935 when an extensive outbreak occurred.[1] Even more severe epidemics followed in 1937 and 1938. The early outbreaks always began in the southern part of the province, and the disease spread farther afield each year, until ultimately the entire province was involved. Since that time, the disease has appeared endemically each season in different parts of the province with periodic localized outbreaks which, in some instances, have been quite severe. These local outbreaks have invariably occurred in districts where isolated cases were recognized the previous year.

As already related,[2] soon after the first equine outbreak a number of humans contracted a disease of the central nervous system which was at first thought to be non-paralytic poliomyelitis. As the number of these cases increased, even in years when typical poliomyelitis was not observed, the possible relationship to the equine disease was suspected. During the summer of 1938, over sixty cases of the unidentified disease were reported, all of which were confined to the southern part of the province and to areas where the equine disease had been very prevalent that year. In 1939, we succeeded in isolating the virus of W.E.E. from two human cases, one from the blood and the second from brain tissue. Late in the summer of 1940, a minor outbreak in horses was followed in several weeks by a number of human cases developing in the same districts. It is interesting to note that this sequence continued for a number of years after human infections were recognized in Saskatchewan, the horse disease preceding that of humans by from three to four weeks; in fact, the equine outbreaks had usually subsided before human cases appeared. During the summer of 1947, outbreaks both in horses and humans occurred simultaneously in most districts affected. Since that time, during some seasons, human infections have preceded those of horses, but not until 1951 did human cases develop in districts where the equine disease was totally absent.

The most extensive human outbreak experienced was that of 1941, when 550 cases were reported, with a mortality rate of 10%. Again, the epidemic was

confined to the southern part of the province, although a few isolated cases appeared in the northwest towards the end of the outbreak. The equine disease did not assume epidemic proportions that year, but all cases which did develop were confined to sections where the human disease was most prevalent. Since it had been previously shown that the equine disease was common to man in Saskatchewan, it was generally thought that the equine virus was responsible for the 1941 outbreak. Work was immediately undertaken to prove or disprove such an assumption.

The procedure followed was to collect blood samples from all patients as early as possible after the onset of the disease, so that neutralization tests against the equine virus might be made and results compared with those secured when a second sample was taken ten days to two weeks later.

Although it was realized from previous experience that virus was seldom recovered from the blood even when secured early in the course of the disease, we attempted such isolation when samples were collected a day or so after the disease was suspected. This procedure was followed until more suitable material was available for virus isolation. During this time, 83 blood samples were examined, all of which yielded negative results. As the outbreak progressed, brains were secured from which we expected little difficulty in determining the causative agent. Not until thirteen such specimens were examined was the virus isolated, and this proved to be that of W.E.E. Since the virus was isolated from but one of the thirteen brains examined, and since it seemed reasonable to presume that all the patients had died from the same disease, work was undertaken to determine the most suitable technique for examination, in order to reduce to a minimum the possibility of overlooking virus which might be present. It was appreciated, from experience gained when dealing with the equine disease, that a factor which had a marked bearing on the success or failure to demonstrate virus was the duration of illness. Seldom was virus isolated from animals which had survived a week or more after the onset of the disease, while little difficulty was experienced in demonstrating its presence when death occurred in a few days or when animals were destroyed immediately the symptoms were noted. This fact may have had much to do with the unsatisfactory results obtained, since most of the human cases survived from two to three weeks after the onset of the disease.

Loss by filtration was also considered a possible cause of the large percentage of negative findings. Since all the brains examined were contaminated, rendering filtration necessary, it was thought this procedure might have so reduced the virus content as to make it innocuous.

To devise a technique which would reduce virus loss to a minimum, work was carried out with virus material of known titre, using different types of filters under varying conditions. Consideration was given the many well-known factors in connection with filtration, such as density of the material being filtered, time elapsing before applying pressure, pressure exerted, length of time the process was continued, and so forth, until that which was considered the most satisfactory procedure was determined. It was soon realized that more constant results were obtained by the use of Seitz filters than with the porcelain types, and they were

therefore used throughout the earlier experiments. Of late years, antibiotics have been made use of to render contaminated material bacteriologically sterile, and this method we find much more satisfactory.

The question which next received consideration was the most suitable hosts for virus isolation. Rabbits, guinea pigs, young and mature mice, and nine-day chick embryos were used. Guinea pigs, mature mice, and rabbits were inoculated intracerebrally; mice under fifteen days received the dose intraperitoneally; and in the case of embryos, the material was introduced into the yolk sac. It was found that guinea pigs, embryos, and mice were quite satisfactory, while rabbits proved refractory and their use was discontinued.

The variation of susceptibility in animals of the same species becomes apparent when dealing with material which is either low in virus content or perhaps contains virus so attenuated, because of contact with changing tissue, as to make its detection difficult. Appreciating this fact, it was decided that all animals used for first isolation should be in groups of not less than twelve. In the case of embryos, which were easier to procure, forty-eight were inoculated. Particular attention was paid the experimental animals and temperatures were recorded several times daily. This plan resulted in virus being secured which could quite readily have been missed. On more than one occasion, virus has been isolated from but one animal in the group, and in these instances the only deviation from normal was a slight elevation of temperature.

During the course of other work done with the same virus, it was found that although rabbits inoculated by way of the foot pad often appeared to remain well, examination of the brain at a later date revealed pathological changes typical of encephalitis. It was also shown that virus could be recovered from the brains of rabbits later than one would expect a reaction from the introduction of the virus.

Considering these facts, it was deemed advisable to further examine surviving animals in each group, so that this abortive type of infection might not be overlooked. The brains of some were taken for further transfers. Other animals were kept from ten to fifteen days, after which they were given virus intracerebrally to determine if the original inoculation had established an immunity. The serum of others was subjected to neutralization tests against the virus being sought. Brain sections were also examined to determine if any pathological change had taken place. In no case did the result suggest that virus had been introduced in the first place or at least not in volume sufficient, or of the virulence necessary to detect its presence by these methods.

As already mentioned, plans were made early in the 1941 outbreak to do neutralization tests on as many patients as possible, blood samples being collected immediately the disease was suspected and again in from ten to fourteen days. A negative reaction followed by a positive was, of course, considered as ample proof that the current illness was W.E.E. The significance of positive tests in cases where a negative was not first secured must always be questioned, but from work done before and since the 1941 outbreak, it would appear that few individuals in Saskatchewan harbour neutralizing bodies for the virus of W.E.E.

After proving that the equine disease was common to man in Saskatchewan, it was realized that we might be asked to do neutralization tests not only to recognize the acute disease but also to determine whether certain symptoms shown by some patients might be a sequelae to a previous infection. Appreciating such an eventuality, it was deemed advisable to test as many normal individuals as possible in order to learn how many would give a positive reaction to the equine virus without a history of previous infection. During the course of this work, some 1,700 blood samples have been tested, about half of which came from districts where outbreaks had been most severe and the remainder from parts where the disease had appeared endemically or from sections where cases had not been recognized. Of the 1,700 tests, one gave a reaction which was classified as suspicious while all others were negative.

Soon after we undertook work in connection with neutralization tests, it was realized that it might continue for a number of years. Because of such an eventuality, it was considered advisable to make a comparison of the different methods of conducting such tests so that the most suitable might be determined and made use of as a routine procedure. Although guinea pigs had been used in the first place and found highly satisfactory, their continued use was impractical because the samples arrived irregularly and usually singly, necessitating a number of animals being used as controls for each test done.

Adult mice could be kept in numbers sufficient to take care of the tests and when inoculated intracerebrally, proved quite satisfactory.

Good results were also obtained with mice under twelve days when inoculated intraperitoneally but it was found impractical to have on hand at all times sufficient animals of the proper age. It was decided to try nine-day embryos, of which there was usually an ample supply in connection with other work and which could be diverted to W.E.E. tests when the occasion arose. After comparing the results obtained with animal inoculations and those secured with embryos, it was decided the latter had advantages which would warrant their use for routine work.

The first essential when using embryos for such tests is the securing of good, strong embryos. This can only be assured when the person candling the eggs has sufficient experience and is capable of recognizing not only live embryos but those which are strong and not likely to die even without interference before a test would be completed.

We learn from poultry husbandrymen that a number of factors may be responsible for dead or weak embryos and that the mortality rate is higher at certain times than others. It is evidently true that there is a high mortality rate at four and again at eighteen days. Although at nine days, when embryos are used for neutralization tests, the death rate is fortunately low, some weak specimens can usually be detected even then by the experienced technician.

A decided advantage in using eggs is that more embryos can be used for each dilution than is practical with animals, a matter which is of great importance when interpreting results. The inoculating of eggs is much simpler than inoculating guinea pigs or mice intracerebrally. A constant supply of embryos can

be arranged for at a given time more readily than can animals unless a very large colony is maintained. Since the majority of tests are done with a view to recognizing an acute condition and since some time must elapse between the onset of the disease and the collecting of blood samples, the time required to complete the test at the laboratory is important. Here again, embryos have a decided advantage, since the results are evident within twenty-four hours as compared with several days when animals are used.

The variation in susceptibility of animals used for conducting the test is much more marked than is the case with embryos. It is true that some sera prove toxic for embryos, and because of this a serum control is used with all tests. Should a serum prove toxic, this can be overcome by inactivating it at 56° C. for fifteen minutes. This procedure has been reported by some workers to reduce the neutralizing quality of the serum, but we find this seldom, if ever, occurs to such an extent as to mask the true reading.

With further reference to the outbreak occurring during the summer of 1941, 312 samples were received, 28 of which were discarded because of gross contamination. Of the remaining 284 specimens, 215 were tested twice. The first specimen was secured immediately the disease was suspected and the second at intervals varying from a week to several months later. All the 215 samples collected at the onset proved negative, while 96 of the second tests were classified as positive and 16 as suspicious. At the height of the outbreak, poliomyelitis had also made its appearance and later it was shown that many of the specimens which proved negative to the second test were from individuals suffering from poliomyelitis. That only 215 samples were tested twice out of 284 collected at the onset was due to the fact that a definite diagnosis of poliomyelitis had been made in some cases before the second specimen was collected and also because of a moving harvest population at that time.

During the summer of 1942, 70 blood samples were tested, 25 of which proved positive. Two of the positive specimens came from individuals who were suspected of having had the disease the previous summer but had not been tested at that time. Forty-eight samples were examined in 1943, 2 of which were positive. In the following year, 30 tests were done, all of which were negative. Towards the latter part of July 1945, a few human cases of W.E.E. were recognized in the southern part of the province, and towards the end of August the disease became quite prevalent, as did poliomyelitis in the same area. That season, 118 tests were done, 21 being positive and 12 classified as suspicious. Few cases were recognized during 1946; only 20 specimens were received, and 2 gave a positive reaction. In 1947, the equine disease again became quite prevalent among humans, to be followed closely by cases of poliomyelitis. At the beginning of this outbreak, arrangements were made with the Provincial Department of Public Health, and several doctors in Regina, to test all patients entering the Regina hospitals with cerebral symptoms. A tentative diagnosis of poliomyelitis or W.E.E. was to be made and recorded on forms sent with the first blood samples, so that we might get an idea of the accuracy of early diagnosis. This plan has been carried out until the present time, but unfortunately a diagnosis has not been attempted in many cases.

The following table shows the number of tests done each year since 1947, the number diagnosed as having poliomyelitis or W.E.E., the cases in which no diagnosis was made, and the results obtained when tested against the equine virus.

Year	*Diagnosis*		*Positive W.E.E.*	*Suspected W.E.E.*	*Negative W.E.E.*
1947	Polio	24	4	2	18
	W.E.E.	31	16	4	11
	None	26	2	0	24
1948	Polio	15	4	1	10
	W.E.E.	10	2	0	8
	None	93	48	0	45
1949	Polio	6	1	0	5
	W.E.E.	51	24	7	20
	None	81	16	0	65
1950	Polio	46	2	0	44
	W.E.E.	19	2	0	17
	None	71	1	0	70

Where the reaction was classified as suspicious, only one sample had been received. In most instances it had been collected too soon after the onset of the disease to expect a definite reaction.

During the course of this work, it has always been borne in mind that a negative test for western encephalitis does not necessarily mean that the patient suffers from poliomyelitis; the possibility of a third virus disease being present cannot be overlooked. Although the majority of cases reacting negatively to the equine virus have ultimately been diagnosed as poliomyelitis, a number have not shown the typical symptoms of that disease, and in such cases a definite diagnosis has not been arrived at.

In an attempt to determine if another virus might be present, a number of blood samples taken from patients proving negative to the equine virus and not showing symptoms of poliomyelitis have been tested against the viruses of St. Louis encephalitis and the virus responsible for lymphocytic choriomeningitis. Only negative results have been obtained so far.

In view of the recent work of Clark, Rhodes, et al.,[3] the possibility of the Coxsackie virus being present was considered during the past season. Isolation of the virus was attempted from a number of cases which had been tentatively diagnosed as poliomyelitis, but again our results were negative.

Sufficient work along this line has not been done to conclude that the Coxsackie virus does not play a part in these cases which we have proved are not caused by the equine virus and which physicians feel certain are not poliomyelitis. Further attempts to isolate the Coxsackie virus will be made whenever an opportunity presents itself.

The possibility of the mumps virus playing a part in the undiagnosed cases is now being considered. Just recently, four suspected W.E.E. cases when tested proved negative but when tested with the mumps virus by means of the hemaglutination-inhibition method, there were strong positive reactions. Three of these cases, it was later learned, developed in a family in which one child had recovered from a typical case of mumps. These cases had not shown the characteristic symptoms of the disease but did show symptoms of a disease of the

central nervous system. No history was secured in connection with the fourth sample of blood tested. Had these cases developed during the height of an epidemic, they would, in all probability, have gone undiagnosed, as at such times it is impossible to test all negative W.E.E. bloods against a number of viruses because of the pressure of work.

The likelihood of W.E.E. being confused with some more benign condition was brought to light during one of the more severe outbreaks in southern Saskatchewan. In a district some twenty miles from the border of an area where W.E.E. cases had been numerous, a minor outbreak of what was considered influenza had just subsided when the doctor became suspicious that some of his patients who were not making the recovery one would expect might have had W.E.E.

In view of the circumstances, it was decided to test a number of samples secured from these patients against the equine virus. In all, 21 samples were obtained. Seven proved positive and 1 gave a suspicious reaction.

Because of these results, it was thought advisable to test a number of people who were apparently healthy members of families in which the disease had appeared, to determine whether any had suffered from an abortive type of the disease which had gone unnoticed. Thirty such samples were tested and the results were entirely negative. Two samples came from members of a family in which seven cases had developed and another from the only member of a household who remained well while five others contracted the disease. As is well known, it is seldom that more than one or two members of a family contract the disease, but when this does occur, the cases usually develop within a few days of each other. The seven cases in the one household showed the first symptoms within three days of each other, while all five in the other group became ill within forty-eight hours.

Among direct contacts tested was a twin of four months who remained well although her sister contracted the disease. These children came from a small city dwelling and had been together constantly from the time of birth.

Of late years, a great deal of the testing we are asked to do is with a view to determining whether a patient's condition could be a sequelae to a previous infection with the equine virus. When doing this work, it is always borne in mind that neutralization tests have very definite limitations and unless certain factors are considered, the results may prove confusing. Consideration must be given to medical history, length of time elapsing since any previous illness which may have been due to the virus of W.E.E., and whether the patients have lived in a district where an outbreak of the disease occurred, even though there was no evidence of a severe illness at that time. We have found that in the majority of cases where a positive reaction is obtained with this class of patient, there is usually a history of an illness which had been definitely diagnosed as W.E.E. or suspected of having been due to the equine virus. When negative reactions are secured with patients having histories of a possible previous infection, the length of time between the sickness and the conducting of the test must be taken into consideration, since neutralizing bodies do not remain in the blood in-

definitely, and unfortunately the period during which they can be detected is quite variable in different individuals.

Whatever factor influences the length of time blood is capable of neutralizing the specific virus, it would appear that neither age, severity, or duration of illness plays any part. Several adults who suffered from a very serious attack of the disease in 1941, and whose blood was positive at that time, proved to be negative in less than three years, while samples from two cases which were considered as mild in character continued to give positive reactions for over five years, with serum titres quite comparable to the original test.

A child of four months whose blood gave a positive reaction when tested two weeks after the onset of the disease, was positive forty-five months later, when its condition was thought to be due to a brain tumour. Postmortem findings showed the typical encephalomyelitis changes, with no suggestion of tumour growth.

Contracting the disease when five months old, an infant was positive six months later but negative thirty-three months after the onset of the disease. Another child who developed symptoms at eleven months of age was still positive five years later.

Recently, a positive reaction was obtained twelve years after the first test. In this case, symptoms of W.E.E. developed a short time after the patient had been assisting in the treatment of sick horses.

W.E.E. presents a national health problem which is generally recognized, but the significance of sequelae resulting from infections with the equine virus is not yet fully appreciated. In fact, the matter has received little consideration, although the sequelae may prove more serious than the mortality rate during an epidemic would indicate. This in Saskatchewan has fallen from 10% during the 1941 outbreak to between 4% and 5% in late years.

For example, it has been found that very young children who contact the disease fail in some instances to develop mentally, while adults who make an apparent recovery may, at a later date, become mentally ill, in some cases to such a degree as to necessitate their confinement in a mental hospital. Four such cases, for whom the dates of infection and the first appearance of mental illness were available, might be cited.

Three infants varying from three to five months, who contracted the disease during two different outbreaks, were considered normal until they were about a year old, when it was suspected that they were not developing mentally. This suspicion proved to be justified. Two who survived still had the mentality of infants six years later; the third child died one year after contracting the disease. These children were tested a few weeks after the onset of the disease and the two survivors were re-tested after four years. Positive reactions were obtained each time.

During the course of testing patients for W.E.E. at two mental hospitals in Saskatchewan (the results of which will be reported later) a positive case was found. His medical history revealed that he had suffered from the disease in the summer of 1946. The patient had been perfectly normal before the virus in-

fection, the mental change being gradual until 1950, when it became necessary for him to be hospitalized. It is true that we have no definite proof that the equine virus was primarily responsible for the mental conditions in these cases, but in view of the history and the fact that a number of similar cases have been brought to light as the result of testing, the findings must be considered significant.

Considering the time which may elapse between the acute disease and the appearance of mental impairment, it can be readily understood that in many instances the two conditions might never be associated. This fact is now appreciated by the authorities at the Saskatchewan mental hospitals, with the result that tests are now being done on all patients entering the institutions.

Ayres and Feemster[4] have found that after the 1938 outbreak of eastern equine encephalomyelitis in southeastern Massachusetts, 34 persons were infected, 70% being under ten years of age; 9 survived and 6 had permanent sequelae after one year. One of the nine survivors cannot be located; two of the eight other survivors had died; four are hemiplegic, mentally deficient and emotionally unstable; one is mentally deficient, epileptic and hysterically inclined; one has a "slight Friedreich's Foot" and is a habit problem; only one has made an apparently complete recovery.

Summary

Work done in Saskatchewan since 1939 in connection with western equine encephalomyelitis in humans has been outlined.

Neutralization tests have been carried out for the recognition of the acute disease and to determine if other diseases might be a sequelae to a previous infection with W.E.E.

It has been shown by neutralization tests that mild cases of W.E.E. can be confused with more benign diseases such as influenza.

The length of time positive reactions may continue after infection is quite variable, ranging from thirty-three months to twelve years.

Mental disease may follow infection with the equine virus, the symptoms appearing some time after the acute illness.

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Canadian Journal of Public Health

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VIRUS DISEASES OF ANIMALS AND MAN

THE OUTBREAK of foot-and-mouth disease in Saskatchewan has brought to Canada a problem which many countries have been attempting to control, and has shown the paralysing effect on the livestock industry and the resultant loss to every citizen. Fortunately, foot-and-mouth disease is not commonly transmitted to man. The method of control employed has been the destruction of infected animals and animals that have been in contact with them. In Europe there are frequent outbreaks and it is believed that it is not possible to eradicate the disease with the present methods of control.

There are a number of respiratory infections in poultry from which viruses have been isolated and established as causative agents. One of these is Newcastle virus disease, which in young chicks causes death and in adult birds seriously reduces egg-laying. This disease occurs in many parts of the world and has been recognized in the United States for some years. Studies in Canada have revealed its occurrence in a number of areas. Infected and exposed birds have been killed in an attempt to control the disease. It is one of the communicable diseases of which the Federal Department of Agriculture assumes control. In combating the disease, the Government has expended more than a million dollars during the past two years in sharing the loss with poultrymen.

In the past two months prevention by vaccination has been introduced in Canada following several years' experience in the United States with an attenuated strain of virus. The living attenuated virus is administered by dropping a suspension of the virus into the eye or nostril of recently hatched chicks. It has been demonstrated also that the use of the vaccine as a spray, which the young chicks breathe in and are thereby inoculated, is an effective and convenient means of vaccinating large numbers of birds. Although virulent strains of Newcastle virus disease may cause infection in man characterized by conjunctivitis and, possibly, respiratory involvement, the attenuated strain is not thought to cause

any serious infection in man. Poultry, particularly young chicks, suffer also from other respiratory infections, including infectious bronchitis. Recent studies in Ontario have indicated that this disease is widespread, and it appears that it may be of even greater importance to the poultry industry than Newcastle virus infection. As a result of joint studies in the Ontario Veterinary College and in the Connaught Medical Research Laboratories, a strain of virus has been made available for use as a vaccine and it is being employed to combat the disease. It is administered to young chicks by the spray method.

Other virus infections in poultry have been identified, including fowl pox, turkey pox, pigeon pox, and laryngo-tracheitis, but undoubtedly there are many other viruses that have yet to be isolated and established as etiological agents. Mention is made of these diseases of poultry not only because of their economic importance, but also to indicate the ways in which attempts are being made to control them, and their possible relationship to respiratory and other infections in man. In the study of influenza in man, the relation of influenza in swine has received much attention. Studies of Q fever in man have indicated that it is probably transmitted from cattle through ticks, and possibly through unpasteurized milk. Although this disease has been studied primarily in California and the neighbouring states, there is no doubt that the disease occurs also in Canada. Through the public health research grants made by the Federal Government to the Provincial Departments of Health, studies have been made in Ontario and Quebec in which specimens of blood serum from many persons have been examined for the presence of antibodies for poliomyelitis and other diseases. Positive findings have been reported for Q fever, indicating that this disease does exist in these provinces. Certain outbreaks of encephalomyelitis in man have been found to be associated with strains of equine encephalomyelitis, but the method of transmission from horses to man has not been completely established, although insect transmission is considered to be the means of spread.

Rabies has not presented a problem in the populated areas of Canada, but may do so at any time. It is a very serious problem in the United States, particularly in New York State and the Southern States. The disease occurs among wild animals, including skunks, squirrels, and foxes. It is reported to be present in the Northwest Territories among the Husky dogs, and it is probable that it is present in wild animals in those areas. With the high incidence of the disease in the United States and its occurrence in the northern sections of Canada, there is a continuous threat that the disease may appear in outbreaks in any of the provinces, particularly, Quebec, Ontario and the Western Provinces. It is fortunate that vaccination of dogs seems to be effective and that revaccination annually maintains a satisfactory immunity. The absence of outbreaks of rabies in Canada among animals is due to the control exercised by the Federal Department of Agriculture and the regulations which prevent the bringing of animals, particularly dogs, into Canada. Dogs are required to be quarantined if a certificate of vaccination is not produced.

These references to a few of the virus diseases which are transmissible from animals to man serve to direct attention to the importance of virus infections

of animals. It is impossible to study the virus diseases of man without studying virus infections of animals.

Canada's resources in research centres for the study of virus diseases are very limited. It is encouraging that a virus laboratory will shortly be constructed in Ottawa as part of the Laboratory of Hygiene in the Department of National Health and Welfare. It will be modern in every respect and will provide facilities for the investigation of any virus disease. During the past five years increasing attention has been given to virus studies in the Laboratory of Hygiene and a group of outstanding scientists in this field will be accommodated in the new building. A joint committee of the Ontario Veterinary College and the Connaught Medical Research Laboratories has been engaged in virus studies during the past three years. Suitable facilities are being provided at the College in Guelph for the handling of viruses which require isolation. At the Dufferin Division of the Laboratories, north of Toronto, excellent facilities have been available for several years and an extensive research program is being conducted. Virus research has formed an important part of the work of the Animal Diseases Research Institute of the Federal Department of Agriculture, at Hull. Research work in viruses is also being conducted in the Institute of Microbiology and Hygiene at the University of Montreal. At the University of Saskatchewan Dr. J. S. Fulton is directing a program in a modern building recently provided for this purpose. The work in the several university centres has been made possible by the support of the National Research Council, the public health research grants of the Federal Government, the National Cancer Institute, the Defence Research Board, and other agencies.

The naming of these centres in Canada where virus studies are provided for in special laboratories directs attention to the limited facilities for the investigation of virus diseases of man and animals in Canada. Of fundamental importance is the training of scientists to conduct studies in this field, for the lack of trained workers is the most serious limiting factor in the extension of research. Some progress has been made in establishing centres for the investigation of virus diseases, but a deeper appreciation of the urgency is necessary if the need is to be met.

NEWS

Saskatchewan

DR. MURRAY S. ACKER, assistant to the deputy minister of public health, was recently granted specialist certification in public health by the Royal College of Physicians and Surgeons of Canada.

DR. F. W. HANLEY and Dr. Alex Stephen have been certified as specialists in psychiatry after passing examinations set by the Royal College of Physicians and Surgeons of Canada. Dr. Hanley is clinical director of the Regina General Hospital and director of the MacNeill Clinic in Saskatoon. Both doctors are on the staff of the Psychiatric Services Branch of the Saskatchewan Department of Public Health. Dr. Hanley obtained most of his training in psychiatry in Saskatchewan, having come to the province from Ontario in 1947. Dr. Stephen came to Saskatchewan in 1950 from England, where he was on the staff of the Addenbrooke Hospital, Cambridge.

THE FIRST VOLUME of the Saskatchewan Health Survey Report, "Health Programs and Personnel", was tabled in the Saskatchewan Legislature on March 27 by the Hon. T. J. Bentley, Minister of Public Health, and was released for general distribution. The 270-page report was completed after more than two years' study of the health needs and resources of the province by an independent advisory Health Survey Committee composed of representatives of the health professions, municipal and lay bodies, and the provincial health department. The committee agreed unanimously to the 115 recommendations in the report. Its main recommendation was that a comprehensive health insurance program, including hospital care, medical services, and a wide range of public health benefits, should be undertaken in Saskatchewan at the earliest possible date and that the Federal Government should extend the scope of its health grants program by adopting immediately a national health insurance program. The second volume of the Saskatchewan report, "Hospital Survey and Master Plan," is being printed and will be released shortly. It includes specific recommendations for achieving a coordinated and regionalized hospital system in Saskatchewan.

DR. ESTHER BROWN, recently certified in therapeutic radiology after passing examinations set by the Royal College of Physicians and Surgeons of Canada, has been promoted from the position of cancer clinic associate to that of senior cancer clinic associate. Dr. Brown is on the staff of the Saskatoon Cancer Clinic.

Manitoba

A TWO-WEEK INSTITUTE on Maternal Health and Principles of Natural Childbirth opened on April 14 for more than thirty-five senior public health nurses and maternity supervisors of hospitals. Arrangements for the course were made by the Provincial Government's Bureau of Maternal and Child Hygiene and the Bureau of Public Health Nursing. Miss Aileen Hogan, nurse instructress of the Maternity Centre, New York, conducted the course, which was held in the Dairy Science Building of the University of Manitoba. Nurses who completed the course will be prepared to act as instructors in developing a program of prenatal education in Manitoba. The course was made possible by a Federal health grant.

A REFRESHER COURSE for licensed practical nurses of Manitoba was held in March under the supervision of the Division of Public Health Nursing, Department of Health and Public Welfare. Miss Winifred Barratt, registrar and consultant for licensed practical nurses for the province, said that an average attendance of 48 at each of the three sessions indicated greater interest than in previous courses. The course was designed to improve nursing care of the patient with a heart condition.

TWO SANITARY INSPECTORS, T. S. Johnson and W. P. Fedak, have returned to the Department of Health and Public Welfare after a year's military service.

DR. L. N. GLEESON has resigned as acting director of the Provincial Government's Bureau of Food Control. Dr. Gleeson was substituting for Dr. E. C. Chamberlayne, director of the Bureau, who is on leave of absence from the Department of Health and Public Welfare, while working on a field project in South America for the World Health Organization.

"PRACTICAL PUBLIC HEALTH ENGINEERING" was the theme of an Institute for Sanitary Inspectors held March 4–7 at the University of Manitoba. More than forty-five certified sanitary inspectors took part in the institute, which was held under the auspices of the Manitoba Department of Health and Public Welfare and the Department of Adult Education and Extension of the University of Manitoba. The lecturers included the Hon. Ivan Schultz, Dr. Hugh Malcolmson, L. A. Kay, Mark Flattery, William Ward, Tom Lackie, and Wilfred Ducharme, as well as university and other government officials.

A TEN-MONTH COURSE for sanitary inspectors has been completed under the direction of the Bureau of Environmental Sanitation, Department of Health and Public Welfare. The twelve men who took the course of lectures and field training have written examinations and been awarded the Certificate in Sanitary Inspection (Canada) by the Canadian Public Health Association. All graduates of the course have been assigned to positions in provincial health units.

THE PRESIDENT of the Canadian Public Health Association, Dr. Morley Elliott, and his program committee are busy with plans for the annual meeting, which will be held at the Fort Garry Hotel in Winnipeg June 16–18.

Ontario

THE REPORT of the Ontario Health Survey Committee was tabled in the House of Commons recently by the Hon. Paul Martin, Minister of National Health and Welfare. It was released simultaneously in Toronto by Ontario's Minister of Health, the Hon. Mackinnon Phillips, M.D., C.M. Dr. Phillips commented that many of the ninety recommendations made by the Committee had been implemented or are in the course of implementation. He praised the work of Chairman G. D. Davis and his committee and all those who contributed to the compilation of the report.

DR. JOHN T. PHAIR, D.P.H., Deputy Minister of Health for Ontario, was a member of the Canadian delegation which attended the recent meeting of the World Health Organization's Annual Assembly at Geneva, Switzerland.

New Brunswick

DURING THE WEEK OF April 25, Dr. Louis K. Diamond and Dr. Paul R. Patterson, of the Boston Children's Hospital and Harvard Medical School, visited various points in New Brunswick. These meetings were sponsored by the Department of Health, the New Brunswick Medical Society, and the New Brunswick Division of the Canadian Cancer Society. Dr. Diamond spoke on "Rh Incompatibility Complicating Pregnancy and the Newborn" and "Leukaemia and Allied Disorders (Newer Treatment)". He provided the most recent information on these subjects with clarity, and great interest was shown by the doctors in the applicability of the newer treatments. Dr. Patterson's subjects were "Some Aspects of Infant Mortality" and "Pancreatic Fibrosis and Allied Disorders." In his research on pancreatic fibrosis he has found that 70% of the cases seen in Boston have ancestry in the Maritime Provinces, and the disease undoubtedly can be found in this part of the country. His comments on infant mortality were of considerable interest because of the persistently high infant death rate in New Brunswick. Dr. Diamond addressed meetings in Woodstock, Bathurst, Charlottetown (P.E.I.), Saint John, and Fredericton. Dr. Patterson spoke in Saint John, Bathurst, Moncton, Calais (Maine), and Fredericton. They were accompanied on their tour by Dr. Ruth McDougall of the Department of Health and by Dr. F. L. Whitehead, secretary of the New Brunswick Medical Society.

DR. J. A. MELANSON, New Brunswick's Chief Medical Officer, has been elected president of the newly organized New Brunswick-Prince Edward Island branch of the Cana-

dian Public Health Association. The organization meeting was held at Fredericton during the winter conference of directors of services and district medical health officers. The executive committee will complete the organizational work, which includes the drafting of a constitution and by-laws to be submitted to the Canadian Public Health Association for approval.

Nova Scotia

CONSTRUCTION on the proposed new wing at the Pathological Institute, Halifax, has been delayed, but additional space totalling 3,000 square feet has been made available for laboratory purposes by moving the Medical Museum to other quarters and utilizing the space thus vacated for a laboratory to be occupied by the Section of Histopathology. This, in turn, will provide additional accommodation to care for the rapidly developing Sections of Haematology and Clinical Bacteriology.

The Robert Roesler de Villiers Foundation

THE ROBERT ROESLER DE VILLIERS FOUNDATION, Inc., 417 Park Avenue, New York 22, N.Y., with the co-operation of the International Society of Hematology and the Société Internationale Europeene d'Hématologie, is offering an award of $1,000 for the most important paper that presents a significant contribution to the knowledge of leukaemia. This prize will be increased to $1,500 according to the practical value of the paper and to $5,000 for a cure or a therapy which will keep the patient alive and enable him to live more or less normally, as Insulin does for the diabetic patient. This award will be given to a research man at a hospital or laboratory or to an individual worker here or abroad—whoever submits the significant contribution which the contest is seeking.

Coming Meetings

Canadian Public Health Association: 40th Annual Meeting, Fort Garry Hotel, Winnipeg, June 16–18, 1952.

Alberta Public Health Association: Annual Meeting, Palliser Hotel, Calgary, September 11 and 12, 1952.

Atlantic Public Health Association: 2nd Annual Meeting, Yarmouth, N.S., September 1 and 2, 1952.

Ontario Public Health Association: 3rd Annual Meeting, Royal York Hotel, Toronto, November 3 and 4, 1952.

Canadian Society of Microbiologists: 2nd Annual Meeting, University of Montreal, Montreal, June 5–7, 1952.

EMPLOYMENT SERVICE

Advertisements regarding "positions available" and "personnel available" will be published in from one to three consecutive issues, depending upon the requirements of the agency or person concerned. They are limited to seventy words or less, with a confidential box number if desired. There is no charge for this service to members of the Association. Health agencies are charged a flat rate of $10.00 for the advertisements (up to four consecutive issues) and for the service. The rate for non-members is $5.00. The service includes confidential clearing of information between prospective employer and employee if desired.

Public Health Nurses, City of Kingston: Due to recent annexation of additional area to the City, public health nurses are required for generalized program with the City of Kingston. Minimum salary $2,200, with allowance for experience, annual increment of $100, cumulative sick leave. Pension plan and Blue Cross Hospital Plan are available if desired. Cars supplied for transportation while on duty. Apply to: Mr. T. J. McKibbin, Secretary of the Board of Health, City Hall, Kingston, Ontario. 3/

Wanted: By City of Toronto, Department of Public Health: Qualified public health nurses for a generalized public health nursing program. Salary $2,974 with yearly increases to $3,391 per annum. Five-day week. Sick leave and pension plan benefits. Apply Department of Personnel, Room 320, City Hall, Toronto.